

In the Claims:

A 1.
1. (Currently Amended) Process for determining the alignment of a body mounted to rotate around a lengthwise axis of the body with respect to a reference direction and including a position measurement probe, comprising the steps of which is calibrated to the reference direction and attached calibrating the position measurement probe relative to the reference direction using a coordinate system that is external to the mounted body to be aligned and fixed relative to the location of said body, attaching the measurement probe on the end face of the body or at a longitudinal axis of the body on a surface essentially parallel to the end face of the body, comprising performing position measurements in at least three measurement positions, each of which differs from the others one another by an angle of rotation of the body around the lengthwise axis of the body, with one position measurement at a time being taken, and computing using an evaluation means to compute the alignment of the body with respect to the reference direction from the measurement data gathered from the at least three measurement positions relative to said coordinate system.

2. (Original) Process as claimed in claim 1, wherein the measurement positions are distributed uniformly over the range of the angle of rotation of 360°.

3. (Original) Process as claimed in claim 2, wherein there are four measurement positions between which the difference of the angles of rotation is approximately 90 degrees.

4. (Original) Process as claimed in claim 1, wherein the alignment of the body is computed using optimization processes selected from one of curve matching and compensation computation from the position measurement data.

5. (Original) Process as claimed in claim 1, wherein the position measurement probe is rotated around three axes, which are stationary in an initial coordinate system of the support of the body, are perpendicular to one another, and define pitch, yaw and roll angles of the body, the position measurement probe being attached to the body such that the roll angle measurement indicates revolution of the probe around an axis approximately parallel to the axis of the body.

6. (Original) Process as claimed in claim 5, wherein in each measurement position, the angle of rotation of the body is the roll angle achieved by the position measurement probe.

7. (Original) Process as claimed in claim 1, wherein the position measurement probe contains at least one optical gyro.

8. (Currently Amended) Process as claimed in claim 1, wherein the position measurement probe is attached by means of magnetic forces to the end face of the body or to a said surface essentially parallel to the end face of the body.

9. (Currently Amended/Withdrawn) Device for determining the axial alignment of a cylindrical body mounted to rotate around its lengthwise axis with respect to a reference direction, comprising a position measurement probe calibrated to a reference direction, a means for attachment of the position measurement probe to an end face of the cylindrical body or at a longitudinal axis of the body on to a surface essentially parallel to an end face of the cylindrical body, and an evaluation means to compute the alignment of the body with respect to the reference direction using a coordinate system that is external to the mounted body to be aligned and fixed relative to the location of said body,

wherein the position measurement probe gathers measurement data from position measurements gathered in at least three measurement positions around the lengthwise axis of rotation such that the measurement positions differ by an angle of rotation of the body around the lengthwise axis.

10. (Currently Amended/Withdrawn) Device as claimed in claim 9, wherein the attachment means performs attachment of the position measurement probe to the end face of the body or a said surface which is essentially parallel to the end face of the body by magnetic force.

11. (Original/Withdrawn) Device as claimed in claim 10, wherein the attachment means is a magnetic foot or magnetic adapter.

12. (Original/Withdrawn) Device as claimed in claim 11, wherein the attachment means comprises a permanent magnet made of a neodymium-iron-boron material which is situated within the housing of the position measurement probe.

13. (Original/Withdrawn) Device as claimed in claim 9, wherein the position measurement probe contains at least one optical gyro.

A' (cont'd)
14. (Currently Amended/Withdrawn) Device for determining the alignment of a cylindrical body which is mounted for rotation around a lengthwise axis thereof with respect to a reference direction, comprising a position measurement probe which is calibrated to the reference direction using a coordinate system that is external to the mounted body to be aligned and fixed relative to the location of said body, and a means for magnet attachment of the position measurement probe on an end face of the cylindrical body or at a longitudinal axis of the body on an adapter surface essentially parallel to the end face of the body,

wherein the position measurement probe is adapted to gather measurement data from position measurements in at least three measurement positions around said lengthwise axis such that the measurement positions differ by an angle of rotation of the body around the lengthwise axis.

15. (Currently Amended/Withdrawn) Printing press including a cylindrical body comprising a device for determining the alignment of the cylindrical body which is mounted for rotation around lengthwise axis thereof with respect to a reference direction, said device including a position measurement probe which is calibrated to the reference direction using a coordinate system that is external to the mounted body to be aligned and fixed relative to the location of said body, and a means for attachment of the position measurement probe by means of magnetic force on the end face of the cylindrical body or at a longitudinal axis of the body on an adapter surface essentially parallel to the end face of the body,

wherein the position measurement probe is adapted to gather measurement data from position measurements in at least three measurement positions around the lengthwise axis such that the measurement positions differ by an angle of rotation of the body around the lengthwise axis.

16. (Currently Amended/Withdrawn) Machine for producing thin sheets including a cylindrical body comprising a device for determining the alignment of the cylindrical body which is mounted for rotation around a lengthwise axis thereof with respect to a reference direction, said device including a position measurement probe which is calibrated to the reference direction using a coordinate system that is external to the mounted body to be aligned and fixed relative to the location of said body, and a means for magnetic attachment of the position measurement probe on an end face of the cylindrical body or at a longitudinal axis of the body on an adapter surface essentially parallel to the end face of the body,

wherein the position measurement probe is adapted to gather measurement data from position measurements gathered in at least three measurement positions around said lengthwise axis such that the measurement positions differ by an angle of rotation of the body around the lengthwise axis.

17. (New) Process as claimed in claim 1, wherein the position measurement probe contains three optical gyros, each of which is capable of forming an optical ring, wherein each optical gyro is used to acquire rotation around an axis perpendicular to a plane of the ring.
